

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested. Claims 1-29 are pending, Claims 1, 5, 8, 16, 25 and 28 having been amended by way of the present amendment.

In the outstanding Office Action the specification was objected to; Claims 5 and 25 were objected to; Claims 1-3, 8, 12, 16, 20, 21, 28 and 29 were rejected as being unpatentable over Ishikawa et al. (U.S. Patent No. 5,862,264 hereinafter Ishikawa) in view of Fu et al. (U.S. Patent No. 5,703,965 hereinafter Fu); Claims 4-6, 15, 25 and 26 were rejected as being unpatentable over Ishikawa and Fu and in further view of Murakami et al. (RE 35,414, hereinafter Murakami); Claims 7 and 27 were rejected as being unpatentable over Ishikawa, Fu and Murakami and in further view of Webb et al. (U.S. Patent No. 6,621,909, hereinafter Webb); Claims 9, 10, 17 and 18 were rejected as being unpatentable over Ishikawa and Fu and in further view of Su (U.S. Patent No. 4,162,482); Claims 11 and 19 were rejected as being unpatentable over Ishikawa, Fu and Su and in further view of Lee et al. (U.S. Patent No. 5,612,744 hereinafter Lee); Claims 13, 22 and 24 were rejected as being unpatentable over Ishikawa, Fu and in further view of Acharya et al. (U.S. Patent No. 6,229,578, hereinafter Acharya); and Claims 14 and 23 were rejected as being unpatentable over Ishikawa, Fu, Acharya and in further view of Futamura (U.S. Patent No. 5,791,271).

In reply the Title has been amended as requested.

Page 23 of the specification has been amended to address the informalities contained therein and to further provide a description of Figure 4 as requested. No new matter is added because express support is found in Fig. 4.

Claims 5 and 16 have been amended and so Claims 5 and 25 (which depend from Claim 16) comply with 35 U.S.C. § 112, second paragraph. However, if the Examiner

disagrees, the Examiner is invited to telephone the undersigned so that mutually agreeable claim language may be identified.

Before turning to the prior art rejections, the amendment to Claim 1 will now be discussed. Amended Claim 1 is directed to an image coding/decoding method that among other things, includes an image coding apparatus that performs steps of extracting edge information, obtaining density information, obtaining code edge information, obtaining coded density information, and sending the coded edge information and coded density information to the image decoding apparatus. In turn, the decoding apparatus obtains the edge information, density information, and obtains the reproduced image from the density information by sharpening the edge part of the edge smooth image by using edge information. Furthermore, Claim 1 has been amended to clarify that the second coding algorithm and second decoding algorithm used in the respective obtaining density information steps of the coder and decoder, are based on a standard coding method using a discrete cosine transform. The amendment to Claim 1 finds adequate support in the specification, for example at pages 1-3, 41 and 42 of the present specification. Therefore no new matter is added.

An advantage with this approach is that by using the coding/decoding method according to the present invention, even though a standard coding algorithm may be used, the information that is lost by coding decreases (page 41, lines 31-37). Consequently, the amount of distortion decreases as compared to other algorithms that use a standard coding algorithm.

Ishikawa is directed to a device and method that uses fractal encoding/decoding as a mechanism to smooth an edge of an image (see e.g. column 1, lines 11-17). Furthermore, in Ishikawa it is quite clear that by using a fractal image compression any advantage over suppression of image quality may be obtained (column 1, lines 62-67).

Comparing amended Claim 1 to Ishikawa, amended Claim 1 requires that the second coding algorithm and second decoding algorithm are based on a standard coding method using a discrete cosine transform. This feature is absent in Ishikawa. Furthermore, Ishikawa teaches away from this feature by requiring the use of fractal image compression, which is a nonstandard coding method, and completely different than a discrete cosine transform.

Fu is asserted for its disclosure of using decoding edge information to sharpen decoded density image. Assuming, *arguendo*, that Fu does disclose this feature, Fu would not cure the deficiencies with regard to Ishikawa. Neither Fu nor Ishikawa discuss or teach how to accomplish the presently claimed invention of amended Claim 1 when using a standard coding method using a discrete cosine transform. Furthermore, there would be no motivation to combine Ishikawa and Fu, and further modify either reference to accomplish the claimed invention, because Ishikawa teaches away from the presently claimed invention by requiring fractal image compression, not a discrete cosine transform. Accordingly, it is respectfully submitted that amended Claim 1 patentably defines over the asserted prior art.

Although of different statutory class and/or scope, it is respectfully submitted that independent Claims 8, 16 and 28, as amended, also patentably define over Ishikawa in view of Fu.

Each of the other claims in the present patent specification are dependent claims that depend from one of the independent claims. Each of these dependent claims is rejected over a secondary, tertiary, or even quaternary reference. However, it is respectfully submitted that none of these ancillary references cure the deficiency with regard to Ishikawa discussed above with regard to Claim 1.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-29, as amended, is definite and patentably distinguishing over the prior art. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully submitted,

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